

What Is Claimed Is:

1. An electric field alignment method of a ferroelectric liquid crystal display device, comprising:

connecting a plurality of thin film transistors arranged along a first direction to a plurality of data lines in an offset configuration between adjacent data lines;

supplying a turn-ON voltage at a level greater than a threshold voltage of the thin film transistors during an electric field alignment of ferroelectric liquid crystal material of the ferroelectric liquid crystal display device at least more than two successive times to a plurality of gate lines arranged along a second direction; and

supplying voltages of opposite polarity to the adjacent data lines during the electric field alignment while maintaining a voltage of a ferroelectric liquid crystal cell of the ferroelectric liquid crystal display device during the electric field alignment.

2. The electric field alignment method according to claim 1, wherein the ferroelectric liquid crystal cell operates in a Half V-Switching Mode.

3. The electric field alignment method according to claim 1, wherein supplying the turn-ON voltage to the gate lines is performed at least between ten to four-hundred times to the gate lines.

4. An electric field alignment method of a ferroelectric liquid crystal display device, comprising:

connecting a plurality of thin film transistors arranged along a first direction to a plurality of data lines arranging in an offset configuraton between adjacent data lines;

supplying a voltage below a threshold voltage of the thin film transistors to a plurality of gate lines during an electric field alignment of ferroelectric liquid crystal material of the ferroelectric liquid crystal display device; and

supplying voltages of opposite polarity to adjacent data lines during the electric field alignment while maintaining a voltage of a ferroelectric liquid crystal cell of the ferroelectric liquid crystal display device during the electric field alignment.

5. The electric field alignment method according to claim 4, wherein the ferroelectric liquid crystal cell operates in a Half V-Switching Mode.

6. The electric field alignment method according to claim 1, wherein supplying the voltage below the threshold voltage of the thin film transistors to the gate lines includes supplying a voltage between about 0~1 V to the gate lines during the electric field alignment.

7. An electric field alignment method of a ferroelectric liquid crystal display device, comprising:

connecting a plurality of thin film transistors arranged along a first direction to a plurality of data lines in an offset configuration adjacent data lines;

maintaining a plurality of gate lines in an electrically floating state during an electric field alignment of a ferroelectric liquid crystal material of the ferroelectric liquid crystal display device; and

supplying voltages of opposite polarity to the adjacent data lines during the electric field alignment while maintaining a voltage of a ferroelectric liquid crystal cell of the ferroelectric liquid crystal display device during the electric field alignment.

8. The electric field alignment method according to claim 7, wherein the ferroelectric liquid crystal cell operates in a Half V-Switching Mode.

9. A ferroelectric liquid crystal display device, comprising:

a liquid crystal panel having a plurality of data and gate lines and a plurality of thin film transistors arranged along a first direction in an offset configuration between adjacent data lines;

a gate driving circuit for supplying a turn-ON voltage at least more than two successive times to the plurality of gate lines, the turn-ON voltage set at a level above a threshold voltage of the thin film transistors during an electric field alignment of ferroelectric liquid crystal material; and

a data driving circuit for controlling opposite polarity voltages supplied to the adjacent data lines during the electric field alignment while maintaining a voltage supplied to ferroelectric liquid crystal cells during the electric field alignment.

10. The ferroelectric liquid crystal display device according to claim 9, wherein the ferroelectric liquid crystal cell operates in a Half V-Switching Mode.

11. The ferroelectric liquid crystal display device according to claim 9, wherein the gate driving circuit supplies the turn-ON voltage between ten and four-hundred times to the plurality of gate lines.

12. The ferroelectric liquid crystal display device according to claim 9, wherein the data driving circuit supplies video data having different polarities to the adjacent data lines during driving of the display device.

13. A ferroelectric liquid crystal display device, comprising:

a liquid crystal panel having a plurality of data and gate lines and a plurality of thin film transistors arranged along a first direction in an offset configuration between adjacent data lines;

a gate driving circuit for supplying a voltage below a threshold voltage of the thin film transistors to the gate lines during an electric field alignment of ferroelectric liquid crystal material of the display device; and

a data driving circuit for controlling opposite polarity voltages supplied to the adjacent data lines during the electric field alignment while maintaining a voltage supplied to a ferroelectric liquid crystal cell during the electric field alignment.

14. A ferroelectric liquid crystal display device, comprising:

a liquid crystal panel having a plurality of data and gate lines and a plurality of thin film transistors arranged along a first direction in an offset configuration between adjacent data lines; and

a data driving circuit for controlling opposite polarity voltages supplied to the adjacent data lines during an electric field alignment while maintaining a voltage supplied to a ferroelectric liquid crystal cell during the electric field alignment,

wherein the gate lines remain electrically floating during the electric field alignment.